

CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

1. (Currently amended): A machine translation decoding method comprising: receiving as input a text segment in a source language to be translated into a target language; generating an initial translation as an initial current target language translation; applying one or more modification operators to the initial current target language translation to generate one or more modified target language translations; determining whether one or more of the modified target language translations represents an improved translation in comparison with the initial current target language translation; setting a modified target language translation as the modified current target language translation; and repeating said applying, said determining and said setting until occurrence of a termination condition.
2. (Original): The method of claim 1 wherein the text segment comprises a clause, a sentence, a paragraph or a treatise.
3. (Original): The method of claim 1 wherein generating an initial translation comprises generating a gloss.
4. (Original): The method of claim 3 wherein the gloss is a word-for-word gloss or a phrase-for-phrase gloss.
5. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises changing in the initial current target language translation the translation of one or two words.

6. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises (i) changing in the initial current target language translation a translation of a word and concurrently (ii) inserting another word at a position that yields an alignment of highest probability between the source language text segment and the initial current target language translation, the inserted other word having a ~~high~~ substantial probability of having a zero-value fertility.
7. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises deleting from the initial current target language translation a word having a zero-value fertility.
8. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises modifying an alignment between the source language text segment and the initial current target language translation by swapping non-overlapping target language word segments in the initial current target language translation.
9. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises modifying an alignment between the source language text segment and the initial current target language translation by (i) eliminating a target language word from the initial current target language translation and (ii) linking words in the source language text segment.

10. (Currently amended): The method of claim 1 wherein applying one or more modification operators comprises applying two or more of the following: (i) changing in the initial current target language translation the translation of one or two words; (ii) changing in the initial current target language translation a translation of a word and concurrently inserting another word at a position that yields an alignment of highest probability between the source language text segment and the initial current target language translation, the inserted other word having a high probability of having a zero-value fertility; (iii) deleting from the initial current target language translation a word having a zero-value fertility; (iv) modifying an alignment between the source language text segment and the initial current target language translation by swapping non-overlapping target language word segments in the initial current target language translation; and (v) modifying an alignment between the source language text segment and the initial current target language translation by eliminating a target language word from the initial current target language translation and linking words in the source language text segment.
11. (Currently amended): The method of claim 1 wherein determining whether one or more of the modified target language translations represents an improved translation in comparison with the initial current target language translation comprises calculating a probability of correctness for each of the modified target language translations.
12. (Currently amended): The method of claim 1 wherein the termination condition comprises a determination that a probability of correctness of a modified target language translation is no greater than a probability of correctness of the initial current target language translation.
13. (Original): The method of claim 1 wherein the termination condition comprises a completion of a predetermined number of iterations.
14. (Original): The method of claim 1 wherein the termination condition comprises a lapse of a predetermined amount of time.

15. (Original): A computer-implemented machine translation decoding method comprising iteratively modifying a target language translation of a source language text segment until an occurrence of a termination condition.

16. (Original): The method of claim 15 wherein the termination condition comprises a determination that a probability of correctness of a modified translation is no greater than a probability of correctness of a previous translation.

17. (Original): The method of claim 15 wherein the termination condition comprises a completion of a predetermined number of iterations.

18. (Original): The method of claim 15 wherein the source language text segment comprises a clause, a sentence, a paragraph, or a treatise.

19. (Original): The method of claim 15 wherein the method starts with an approximate target language translation and iteratively improves the translation with each successive iteration.

20. (Original): The method of claim 19 wherein the approximate target language translation comprises a gloss.

21. (Original): The method of claim 20 wherein the gloss comprises a word-for-word gloss or a phrase-for-phrase gloss.

22. (Original): The method of claim 19 wherein the approximate target language translation comprises a predetermined translation selected from among a plurality of predetermined translations.

23. (Original): The method of claim 15 wherein the method implements a greedy algorithm.

24. (Original): The method of claim 15 wherein iteratively modifying the translation comprises incrementally improving the translation with each iteration.

25. (Original): The method of claim 15 wherein iteratively modifying the translation comprises performing at each iteration one or more modification operations on the translation.
26. (Original): The method of claim 25 wherein the one or more modification operations comprises one or more of the following operations: (i) changing one or two words in the translation; (ii) changing a translation of a word and concurrently inserting another word at a position that yields an alignment of highest probability between the source language text segment and the translation, the inserted other word having a high probability of having a zero-value fertility; (iii) deleting from the translation a word having a zero-value fertility; (iv) modifying an alignment between the source language text segment and the translation by swapping non-overlapping target language word segments in the translation; and (v) modifying an alignment between the source language text segment and the translation by eliminating a target language word from the translation and linking words in the source language text segment.
27. (Original): A machine translation decoder comprising: a decoding engine comprising one or more modification operators to be applied to a current target language translation to generate one or more modified target language translations; and a process loop to iteratively modify the current target language translation using the one or more modification operators, the process loop terminating upon occurrence of a termination condition.
28. (Original): The decoder of claim 27 wherein the process loop controls the decoding engine to incrementally improve the current target language translation with each iteration.
29. (Original): The decoder of claim 27 further comprising a module for determining a probability of correctness for a translation.
30. (Original): The decoder of claim 29 wherein the module for determining a probability of correctness for a translation comprises a language model and a translation module.

31. (Original): The decoder of claim 29 wherein the process loop terminates upon a determination that a probability of correctness of a modified translation is no greater than a probability of correctness of a previous translation.
32. (Original): The method of claim 27 wherein the process loop terminates upon completion of a predetermined number of iterations.
33. (Original): The decoder of claim 27 wherein the one or more modification operators comprise one or more of the following: (i) an operator to change in the current target language translation the translation of one or two words; (ii) an operator to change in the current target language translation a translation of a word and to concurrently insert another word at a position that yields an alignment of highest probability between the source language text segment and the current target language translation, the inserted other word having a high probability of having a zero-value fertility; (iii) an operator to delete from the current target language translation a word having a zero-value fertility; (iv) an operator to modify an alignment between the source language text segment and the current target language translation by swapping non-overlapping target language word segments in the current target language translation; and (v) an operator to modify an alignment between the source language text segment and the current target language translation by eliminating a target language word from the current target language translation and linking words in the source language text segment.